

REMARKS

The Examiner's Action mailed on March 21, 2007, has been received and its contents carefully considered. Additionally attached to this Amendment is a Petition for a Three-month Extension of Time, extending the period for response to September 21, 2007, together with the requisite fee.

In this Amendment, Applicant has amended claims 4, 6, 21, 22, 24 and 25. Claim 3 has been canceled. Claims 1, 6 and 23 are the independent claims, and claims 1, 4-10, 21-25 and 27 remain pending in the application. For at least the following reasons, it is submitted that this application is in condition for allowance.

The Examiner's Action has rejected claims 3, 4, 6, 21, and 22-25 as being indefinite. Because claim 3 has been canceled, the rejections pertaining to this claim have been rendered moot. Moreover, the recitation to the "uppermost layer" in claims 22 and 24 has been changed to use language that coincides with the drawings. However, the language of claim 23 remains unchanged, since this claim did not recite that the second conductive region was an uppermost layer, but instead recites that the second conductive region is an upper layer. This is clearly shown in Figure 2B. The fact that there may be other layers adjacent to the second conductive region, which may be higher than the second conductive region, is deemed to be irrelevant, as this claim does not recite that the second conductive region is the most upper layer. Further, claim 6 has been amended to define the length recited thereby. Further, claims 21 and 25 have been amended to eliminate recitation to the term space, and now define the structure in a manner

more similar to claim 23. It is submitted that the claims comply with all official provisions, and it is requested that this rejection be withdrawn.

The Examiner's Action has rejected the claims as being obvious over *Kim* in view of *Koike*, *Fournel*, and further in view of *Mizuno*. It is submitted that these claims are all *prima facie* distinguishable over the cited references, for at least the following reasons.

NONE OF THE CITED REFERENCES DISCLOSE OR SUGGEST
APPLICANT'S CLAIMED MULTI-LAYERED STRUCTURE

As noted in Applicant's last-filed Amendments, the subject matters of which are incorporated herein by reference, neither *Kim*, nor *Koike*, nor *Fournel*, disclose or otherwise suggest Applicant's claimed semiconductor device which includes a first conductive region having a plurality of conductive layers, as well as first and second electrode pads which have a conductive line, which includes the first conductive region, extending therebetween. The Examiner's Action appears to acknowledge that neither *Kim*, nor *Koike*, nor *Fournel* disclose or suggest this feature, and thus also relies on the teaching of the newly cited *Mizuno* reference.

However, *Mizuno* discloses a semiconductor integrated circuit which includes a single layer TaN 15 which is used as a fuse, and which extends between aluminum pads 16 (Al layer), and which are disposed on a SiO layer 14, as shown in figure 2. The TaN layer 15 functions as a barrier metal layer for the

Al layers 16, as discussed paragraph No. 0014. The TaN layer 15 and the Al layer 16 are layered directly, without any insulating layers therebetween. Thus, *Mizuno* does not disclose or suggest a multi-layered structure, in which a plurality of metal layers are layered with respective insulating layers therebetween, as recited in claims 1, 6 and 23.

This reference also discloses that a glass coating layer 17 can be formed over the TaN layer 15, as well as over the aluminum pads 16. The Examiner's Action contends that this TaN layer 15 together with the glass coating layer 17 constitutes a more layered section, and contends that this disclosure overcomes the deficiencies of the other cited references. However, it is noted that Applicant's independent claim 1 specifically recites that the first conductive region, which is the multi-layered structure, includes a plurality of conductive layers with an insulating layer disposed therebetween. Even assuming *arguendo* that the layer 17 and the layer 15 could be construed as a multi-layered structure, this so-called multi-layered structure is not equivalent to Applicant's claimed multi-layered structure, as it does not comprise a plurality of conductive layers having an insulating layer disposed therebetween.

**MIZUNO TEACHES AWAY FROM APPLICANT'S CLAIMED MULTI-
LAYERED STRUCTURE**

Furthermore, it is respectfully submitted that one skilled in the art presented with the teachings from this reference, would not view the layer 17 and the layer

15 as being a multi-layered structure in the manner recited by Applicant's independent claim 1. That is, this reference specifically recites that it is important that the TaN layer be a single layer (see column 3, paragraph number 46). Thus, not only does this reference not disclose or suggest Applicant's claimed multi-layered structure, which comprises a plurality of conductive layers and an insulating layer disposed in between, but this reference specifically teaches away from such a configuration, due to the importance of the fuse being a single layer, as discussed in this reference. As such, it is respectfully submitted that Applicant's independent claims 1, 6 and 23, and the claims dependent therefrom, are patentably distinguishable over the cited references.

Furthermore, Applicant's independent claim 6 is submitted to be *prima facie* patentably distinguishable over the cited references for at least the following additional reasons.

This claim recites, *inter alia*, that a length of the second conductive region along the conductive line is formed to be not larger than a double width of the conductive line. The Action relies on the feature 101 shown in Figure 5B of *Mizuno* as teaching this claimed feature. However, it is respectfully brought to the Examiner's attention that Figure 5B is a prior art configuration, and has nothing to do with the configuration shown in Figures 1 and 2 of *Mizuno*. For example, *Mizuno* teach that the black-box feature 101 is a PN junction (see paragraph No. 0007); however, there is nothing from this disclosure to suggest that this PN

junction is a second conductive region, as recited claim 6, that has a length to be not larger than a double width of a conductive line, together with the additional added recitations in claim 6. As such, it is respectfully submitted that Applicant's independent claim 6 is patentably distinguishable over the cited references. It is thus requested that this claim also be allowed.

Moreover, Applicant's independent claim 23 is submitted to be *prima facie* patentably distinguishable over the cited references for at least the following additional reasons.

Claim 23 recites that the second conductive region is an upper layer that is suspended over the semiconductor substrate. The Examiner's Action had relied on the teachings of *Koike* as disclosing a bridge structure, in the earlier Office Actions. However, this so-called bridge structure does not include a region that is suspended, much less suspended over a semiconductor substrate, as recited by claim 23. Instead, the center portions of the so-called bridge structures are fully supported by the layer of the material thereunder, so that there is no suspension of this feature what-so-ever. It is thus requested that this claim, and the claims dependent therefrom, be allowed. It is further requested that these rejections be withdrawn.

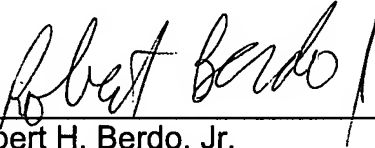
It is submitted that this application is in condition for allowance. Such action and the passing of this case to issue are requested.

Should the Examiner feel that a conference would help to expedite the prosecution of this application, the Examiner is hereby invited to contact the undersigned counsel to arrange for such an interview.

Should the remittance be accidentally missing or insufficient, the Director is hereby authorized to charge the fee to our Deposit Account No. 18-0002.

Respectfully submitted,

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Date


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